AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for producing a titanium-containing perovskite compound that has ferroelectricity, characterized in that the method comprises a step of reacting titanium oxide produced through a vapor-phase method with at least one element selected from a group of alkaline earth metal compound and Pb compound in an alkaline solution, wherein when the titanium oxide contains rutile titanium oxide, the content of anatase titanium oxide is 20 to 100 mass%.

2. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, wherein primary particles of the titanium-containing perovskite compound have a diameter (D1) that is 50 to 200% the size of primary particles of the titanium oxide serving as a starting material, the size (D1) being determined by converting the specific surface area (S) of the particles obtained by the BET method to the total surface area of spheres in accordance with the following equation (1):

$$D1 = 6/\rho S \quad (1)$$

wherein ρ represents a density of the particles and S represents a BET specific surface area.

3. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, using ultrafine particles of titanium oxide having a BET specific surface area of 3 to 200 m^2 / g.

4. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, using the titanium oxide produced by oxidizing titanium tetrachloride at high temperature by use of an oxidizing gas.

5. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 4, using the titanium oxide produced by a vapor-phase method is produced by respectively introducing a titanium tetrachloride-containing gas and an oxidizing gas which are heated in advance to 500°C or higher into a reaction tube at a flow rate of 10 m/sec or more.

6. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 5, using the titanium oxide produced by retaining the titanium tetrachloride-containing gas and the oxidizing gas in the reaction tube for reaction for one second or shorter under a high-temperature condition higher than 600°C.

7. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 6, using the titanium oxide produced under a condition of an average gas flow rate in the reaction tube of 5 m/sec or more.

8. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, using the titanium oxide produced by a vapor-phase method is produced by introducing the preheated titanium tetrachloride-containing gas and oxidizing gas into the reaction tube in such a manner that turbulence is generated in the reaction tube.

9. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 8, using the titanium oxide produced by introducing the titanium tetrachloride-containing gas and the oxidizing gas into the reaction tube through a coaxial parallel flow nozzle and the inner tube of the coaxial parallel flow nozzle has an inside diameter of 50 mm or less.

10. (previously presented): The method for producing a titanium-containing perovskite compound as claimed in claim 4, wherein the titanium-tetrachloride-containing gas has a titanium tetrachloride content of 10 to 100%.

11. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 5, wherein each of the titanium tetrachloride-containing gas and the oxidizing gas is heated in advance at 800°C or higher.

12. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, wherein the titanium oxide produced by a vapor-phase method has a mean particle diameter at a 90% cumulative weight on the particle size distribution curve (D_{90}) of 2.2 μm or less.

13. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, wherein the titanium oxide produced through a vapor-phase method has a distribution constant n, as calculated from the following Rosin-Rammler equation (2), of 1.7 or more:

$$R = 100 \exp(-bD^n) \quad (2)$$

wherein D is a particle diameter; R is the percentage of the number of particles larger than D (particle diameter) with respect to the total number of particles; n is a distribution constant; and b is a reciprocal of particle characteristic constant.

14. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, wherein the titanium oxide produced by a vapor-phase method contains anatase-crystal-form titanium oxide.

15. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 1, using an alkaline solution in which a basic compound exists.

16. (original): The method for producing a titanium-containing perovskite compound as claimed in claim 15, wherein the basic compound is selected from ammonium, organic amine and hydroxide of ammonium salt.

17. to 32 (canceled).

33. (currently amended): A method for producing a titanium-containing perovskite compound that has ferroelectricity, characterized in that the method comprises a step of reacting titanium oxide produced through a vapor-phase method with at least one element selected from a group of alkaline earth metal compound and Pb compound in an alkaline solution, wherein the titanium oxide contains at least 80 mass% of anatase titanium oxide.